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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/805,872	03/22/2004	John L. Caldwell	108298770US	9880

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EXAMINER

HOLLINGTON, JERMELE M

ART UNIT PAPER NUMBER

2829

DATE MAILED: 07/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/805,872	Applicant(s) CALDWELL ET AL.	
	Examiner Jermele M. Hollington	Art Unit 2829	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 17-37 is/are pending in the application.
- 4a) Of the above claim(s) 1-10 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 24 is/are allowed.
- 6) ☒ Claim(s) 17-23 and 25-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Mr. Jimmy Nguyen is no longer prosecuting this case. Examiner Jermele Hollington is now prosecuting this case.

Election/Restrictions

1. This application contains claims 1-10 drawn to an invention nonelected without traverse in Paper No. 20051017. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Response to Arguments

2. Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

3. Applicant's arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 17-23 and 25-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al (6707309) in view of Akram et al (6373273).

As to claims 17, 26, 32, 37, Sato et al disclose (Fig 1) a test socket (24) for receiving a microfeature device (26) having a substrate and a plurality of interconnect elements (26a) projecting from the substrate (26), the test socket (24) comprising a recess (open middle section) having a lead-in surface (open surface) and a support surface (upper surface 24), the support surface (30, 32). However, Sato et al are silent on a plurality of apertures positioned to receive corresponding interconnect elements of the microfeature device, wherein the individual aperture extend through the test socket and have a cross-sectional dimension less than a cross-sectional dimension of the interconnect elements so that the substrate is spaced apart from the support surface when the microfeature device is received in the recess. On the other hand, Akram et al teach (fig. 29) a plurality of apertures (16) positioned to receive corresponding interconnect elements (14) of the microfeature device (12), wherein the individual aperture (16)

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extend through the test socket (10) and have a cross-sectional dimension less than a cross-sectional dimension of the interconnect elements (14) (the cross section of pocket 16 is less than the cross section of contact 14) so that the substrate (12, 32) is spaced apart from the support surface (top surface of 10) when the microfeature device (12) is received in the recess (16) . It would have been obvious to one having an ordinary skill in the art at the time of the invention was made to modify the teaching of Sato et al with the aperture as taught by Akram et al for the purpose ensuring the contact between the semiconductor devices with the socket.

As to claims 18, 29, 35, Akram et al teach (fig 29) the test socket of claim 17, wherein the apertures (16) in the support columns corresponding to an array of interconnect elements (14) on the microfeature device (12).

As to claims 19, 30, 36, Akram et al teach (fig 29) the test socket of claim 17 wherein: the support surface (the upper surface of 10) further comprises an opening, and the apertures (16) in the support surface are arranged around the perimeter of the opening so that when the microfeature device (12) is received in the recess, the apertures (16) receive the corresponding interconnect elements (14) and the other interconnect elements are positioned at the opening.

As to claim 20, Akram et al teach (fig 29) the support surface (the upper surface 10) further comprises an opening, and the apertures (16) comprise at least three apertures around the opening.

As to claim 21, Akram et al teach (fig 29) the test socket (10) of claim 17

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Wherein the Cross-sectional dimension of the individual apertures (16) is from approximately 70 percent to approximately 80 percent of the cross-sectional dimension of the corresponding interconnect elements (14).

As to claims 22, 31, Sato et al disclose (fig 1) the test socket of claim 17, further comprising a body having the recess (middle section opening) and a shelf (30b), and a ball support member carried by the shelf (30b) and having the support surface.

As to claim 23, Akram et al teach (fig 29) the test socket of claim 17 wherein the individual apertures (16) comprise a beveled portion.

As to claims 25, 28, 34, Akram et al teach (figs 27 - 29) the test socket of claim 17 wherein the cross-sectional dimension of the individual apertures (16) is a first, smallest diameter in the apertures', and the individual apertures comprise a first portion having the first, smallest diameter and a second portion having a second diameter greater than the first diameter.

As to claims 27, 33, Akram et al teach (fig 29) the test socket (10) wherein the individual apertures (16) have a cross sectional dimension less than a cross sectional dimension of the corresponding interconnect element (14).

Conclusion

7. Claim 24 is allowed.
8. The following is a statement of reasons for the indication of allowable subject matter: The prior arts of record are fail to disclose the combination of a test socket for receiving a microfeature device having a substrate and a plurality of interconnect elements projecting from the substrate, the test socket comprising a recess having a lead-in surface and a support surface, the support surface including a plurality of apertures

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positioned to receive corresponding interconnect elements of the microfeature device, wherein the individual apertures extend through the test socket and have a cross-sectional dimension less than a cross-sectional dimension of the interconnect elements so that the substrate is spaced apart from the support surface when the microfeature device is received in the recess, wherein the test socket further comprises an exterior surface opposite the support surface, and wherein the individual apertures comprise a first beveled portion proximate to the support surface and a second beveled portion proximate to the exterior surface.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

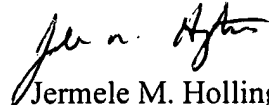
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jermele M. Hollington whose telephone number is (571) 272-1960. The examiner can normally be reached on M-F (9:00-4:30 EST) First Friday Off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ha Nguyen can be reached on (571) 272-1678. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Jermele M. Hollington
Primary Examiner
Art Unit 2829

JMH
July 7, 2006